UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/549,620	04/14/2000	Anoop Kumar Mathur	H16-26292	9366

128	7590	02/20/2004

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EXAMINER
HIRL, JOSEPH P

ART UNIT	PAPER NUMBER
2121	

DATE MAILED: 02/20/2004   1 9

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE f this communication app ars n the c ver sheet with the c rrespondence address --

Period f r Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 November 2003*.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,9-18 and 20-36* is/are pending in the application.

  4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *25-28 and 33-36* is/are allowed.

6)☒ Claim(s) *1-7, 9-18, 20-24, 29-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

  a)☐ All b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

  * See the attached detailed Office action for a list of the certified copies not received.

Attachm nt(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

1.   This Office Action is in response to an AMENDMENT entered November 28,

2003 for the patent application 09/549,620 filed on April 14, 2000.

2.   All prior office actions are fully incorporated into this Final Office Action by

reference.

3.   The claims and only the claims form the metes and bounds of the invention.

"Office personnel are to give the claims their broadest reasonable interpretation in light

of the supporting disclosure. *In re Morris,* 127 F.3d 1048, 1054-55, 44USPQ2d 1023,

1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in

the claim are not read into the claim. *In re Prater,* 415 F.2d, 1393, 1404-05, 162 USPQ

541, 550-551 (CCPA 1969)" (MPEP p 2100-8, c 2, l 45-48; p 2100-9, c 1, l 1-4). The

Examiner has full latitude to interpret each claim in the broadest reasonable sense.

Examiner will reference prior art using terminology familiar to one of ordinary skill in the

art. Such an approach is broad in concept and can be either explicit or implicit in

meaning.

4.   Examiner's Opinion:

        The Examiner strongly encourages the applicant to arrange for a phone interview

concerning this application before any further action is taken.

Status of Claims

5.   Claim 29 was amended. Claims 1-7, 9-18, and 20-36 are pending.

Claim Rejections - 35 USC § 101

6.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1, 2 and 29-32 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The practical application test requires that a useful, concrete and tangible result be accomplished. Claims 1, 2 and 29-32 are not tangible embodied in the technical arts and are therefore non statutory.

Claim Rejections - 35 USC § 112

7.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

     Claims 1, 2 and 29-32 are rejected under 35 USC 112, first paragraph because current case law (and accordingly, the MPEP) require such a rejection if a 101 rejection is given because when Applicant has not in fact disclosed the practical application for

the invention, as a matter of law there is no way Applicant could have disclosed how to practice the undisclosed practical application. This is how the MPEP puts it:

> ("The how to use prong of section 112 **incorporates as a matter of law** the requirement of 35U.S.C. 101 that the specification disclose as a matter of fact a practical utility for the invention.... If the application fails as a matter of fact to satisfy 35 U.S.C. 101, then the application also fails as a matter of law to enable one of ordinary skill in the art to use the invention under 35 U.S.C. § 112."); In re Kirk, '376 F.2d 936, 942, 153 USIPQ 48, 53 (CCPA 1967) ("Necessarily, compliance with § 112 requires a description of how to use presently useful inventions, **otherwise an applicant would anomalously be required to teach how to use a useless invention."). See, MPEP 21107.01 (IV), quoting In re Kirk (emphasis added).

Therefore, claims 1, 2 and 29-32 are rejected on this basis.

Response to Arguments

8. Applicant's arguments filed on November 28, 2003 related to claims 1-7, 9-18,

and 20-36 have been fully considered but are not persuasive.

In reference to Applicant's argument:

Applicant does not admit that the cited references are prior art and reserves the right to "swear behind" each of the cited references as provided under 37 C.F.R. 1.131.

Examiner's response:

Response is acknowledged.

In reference to Applicant's argument:

Claims 29-32 were rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter. In particular, the Office Action indicated that "[t]he practical application test requires that a useful, concrete and tangible result be accomplished." Office Action at 118. Claims 29-32 represent abstract methodology and therefore are intangible. Applicant has amended claim 29 to recite "modifying at least one of the steps of the recipe based on the identifying of the one or more modifications."

Accordingly, a tangible result is achieved based on the modification of at least one of the steps of the recipe.

Examiner's response:

See para 6 above. It is important to understand that for tangibility of the

respective claims to be realized, the method itself must be embodied in the technology

arts..i.e. a computer.

In reference to Applicant's argument:

With regard to claim 1, among the differences, such claim recites "annotating one or more actions in the production recipe with a desired intention for the action." In the "Response to Arguments" section, the Office Action maintains its previous rejection in the Office Action mailed December 13, 2002 citing a description of the behavior statement in Kohn at column 18, lines 57-59. In maintaining the previous rejection, the Office Action is alleging that "[w]ithout such annotation (intention of operation), Kohn's Invention could not function."

Accordingly, the Office Action is asserting that the system of Kohn is inoperable with annotations regarding intention of operation. Applicant respectfully traverses this allegation and submits that if these annotations were needed to operate the system of Kohn, such annotations would at least be disclosed a single time in the description of the system. However, the Office Action fails to point to any part of the description that describes something (these annotations) that is needed in order for the system to operate. Accordingly, Applicant respectfully submits that annotations for intention of operation is not required to operate the system of Kohn.

Examiner's response:

Para 3 applies. The issue is annotations and certainly Kohn at c 18, l 57-60

establishes annotations with desired behavior.

In reference to Applicant's argument:

With regard to the remarks related to inherency of such limitation in Kohn, the Office Action indicated that [t]he Examiner, when appropriate, will provide to the Applicant an opinion for the sake of clarification that will convey the understanding of one of ordinary skill in the art and could very well be related to inherency . . . . The Examiner states that inherency is not synonymous with conclusory. See Office Action at page 5.

> As set forth by the Federal Circuit,
> For a prior art reference to anticipate a claim, the reference must disclose each and every element of the claim with sufficient clarity to prove its existence in the prior art . . . . Although this disclosure requirement presupposes the knowledge of one skilled in the art of the claimed invention, that presumed knowledge does not grant a license to read into the prior art reference teachings that are not there. (emphasis added) Motorola, Inc. v. Intertdigital Tech.
> Corp., 121 F.3d 1461, 43 USPQ 2d 1481, 1490 (Fed. Cir. 1997).

Applicant respectfully submits that one of ordinary skill in the art would not annotate a desired intention for an action of a production recipe based on a system that only discloses the generation of "a statement representing the desired behavior." Kohn at column 18, lines 57-59. Behavior is defined as "the way something function or operates." Merriam- Webster Dictionary 2003. Intention is defined as "what one intends to do or bring about", wherein intend is defined as "to have in mind as a purpose or goal." Merriam- Webster Dictionary 2003. Therefore, "behavior" relates to the "how" of an operation, while "intention" relates to the purpose of goal of such operation.

Examiner's response:

Kohn's "...desired behavior..." at C18, I 57-60 anticipates the inventor's

annotation concept.

In reference to Applicant's argument:

With regard to claim 3, among the differences, such claim recites "generating through computer automated operations a recipe comprising a set of actions and the purpose of the underlying process." In the "Response to the Arguments" section, the Office Action maintained its position set forth in the Office Action mailed :December 13, 2002 and submitted the following statements:

> To one of ordinary skill in the art, it is recognized that technology builds on technology and any given piece of art, merely represents that which is new or noteworthy at that moment in time. Such new technology will indeed become the support (inherency) for yet another piece of art. Office Action at page 6.

The relevancy and basis for such statements are unclear. However, Applicant assumes that this is the basis for maintaining the inherency rejection under 35 U.S.C. 102. The Office Action then recites the following from Kohn:

> The Model Builder Realization 51 contains clauses that constitute a recipe for building a procedural model (automation) for generating a variable instantiation and theorem proving. Kohn at column 21, lines 39-42.

However, as in other recitations from Kohn, this recitation does not describe generating a recipe that comprises the purpose of the underlying process. Purpose is defined as "something set up as an objector end to be obtained." Merrian-Webster Dictionary 2003. Applicant respectfully submits that the recitations in Kohn neither explicitly nor inherently disclose a recipe that comprises the end to be obtained for the underlying process.

Examiner's response:

Para 3 applies. Applicant's quote from Kohn: "...a recipe for building a

procedural model..."comprises the end to be obtained for the underlying process."

In reference to Applicant's argument:

With regard to claim 6, among the differences, claim 6 recites "modifying a recipe for a batch processing situation using the data stored in the knowledge repository, wherein the recipe contains steps and purposes." In light of the remarks set forth above concerning claim 3, Applicant respectfully submits that the rejection of claim 6 has been overcome and that this claim is in condition for allowance.

Examiner's response:

Para 3 applies. The above comments apply. Kohn at col 53, l 54-60 applies.

In reference to Applicant's argument:

With regard to claim 9, among the differences, claim 9 recites "a Structured Knowledge Repository to store and organize the knowledge, wherein the Structured Knowledge Repository organizes knowledge and provides links between. specific pieces of information and the functional purposes to which the knowledge can be put."

Examiner's response:

Para 3 applies. Prior office actions apply. The above comments apply.

In reference to Applicant's argument:

In the "Response to Arguments" section, the Office Action refutes that previous Office Actions do not indicate that Kohn does not teach "abstraction-decomposition space techniques." See Office Action at pages 7-8. Please see the page 13 of the current Office Action, which recites the remarks from prior Office Actions:

Kohn does not teach structured knowledge repository uses abstraction-decomposition space (ADS) techniques.

The Office Action indicated that the rejection from the prior office actions still apply. In particular, the Office Action mailed December 13, 2002 stated that "[t]o one of ordinary skill in the art such as an engineer that is accustomed to solving problems, the combination of Kohn with APA is not elusive [and] [f]or sure, artificial intelligence is cognitive work." Office Action at page 6.

Applicant traverses this rejection. As set forth in the prior response to the Office Action mailed on April 11, 2002, "[t]he Office Action must provide specific, objective evidence of record for a finding of a suggestion or motivation to combine reference teachings and must explain the reasoning by which the evidence is deemed to support such a finding. In re Suing Sit Lee, 277 F.3d 1338, 61 U.S.P.Q.2d 1430 (Fed. Cir. 2002). Applicant respectfully submits that the remarks in the "Response to Arguments" section are conclusory such that the Office Action has not provided objective evidence for a suggestion or motivation to combine Kohn with the Applicant's specification (which is referred to by the Office Action as APA).

Examiner's response:

The applicant is invited to return to the cited office reference and read the whole reference to Kohn. The Examiner's statement is correct and stands. Since the applicant has not offered any further arguments concerning claim 18, prior office responses apply.

Claim Rejections - 35 USC § 102

9.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Claims 1 –7, 9-17, and 20-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Kohn et al (U. S. Patent 5,963,447).

Claim 1

Kohn anticipates annotating one or more actions in the production recipe with a desired intention for the action (**Kohn**, col 4, lines 57 – 62; col 6, lines 14 – 17; col 18, lines 44 – 45).

Claim 2

Kohn anticipates annotating the one or more actions with a desired state for the action (**Kohn**, col 4, lines 57 – 62; col 6, lines 14 – 17; col 18, lines 44 – 45; col 2, lines 38 – 40).

Claim 3

Kohn anticipates receiving knowledge from one or more sources (**Kohn**, col 18, lines 44 – 45); and generating through computer automated operations a recipe comprising a set of actions and the purpose of the underlying process (**Kohn**, col 1, lines 8 – 16; col 21, lines 40 – 43; col 4, lines 34 – 37).

Claim 4

Kohn anticipates modifying the recipe (**Kohn**, col 6, lines 14 – 17; col 21, lines 32 – 43).

Claim 5

Kohn anticipates the knowledge is received from a user (**Kohn**, col 18, lines 44 – 45).

Claim 6

Kohn anticipates receiving data from multiple knowledge sources (**Kohn**, col 18, lines 44 – 45; col 55, lines 34 – 36); storing the data in a structured knowledge repository (**Kohn**, col 55, lines 37 – 38); and modifying a recipe for a batch processing situation using the data stored in the knowledge repository, wherein the recipe contains steps and purposes (**Kohn**, col 53, lines 54-60).

Claim 7

Kohn anticipates modifying the recipe further comprises using inputs from a user (**Kohn**, col 18, lines 44 – 45; col 21, lines 32 – 43).

Claim 9

Kohn anticipates a Knowledge Builder to derive from multiple knowledge sources (**Kohn**, col 18, lines 44 – 45); a Structured Knowledge Repository to store and organize the knowledge, wherein the Structured Knowledge Repository organizes knowledge and provides links between specific pieces of information and the functional purposes to which the knowledge can be put (**Kohn**, col 19, lines 1-13); and a Decision Maker to use the knowledge stored in the structured knowledge repository to identify one or more modifications of recipe steps (**Kohn**, col 18, lines 64 – 67; col 19, lines 1 – 6).

Claim 10

Kohn anticipates the recipe is for a batch process (**Kohn**, col 1, lines 9 – 16).

Claim 11

Kohn anticipates Knowledge Builder is to extract knowledge from multiple sources through one or more Machine Learning techniques (**Kohn**, col 10, lines 54 – 57).

Claim 12

Kohn anticipates wherein the different Machine Learning techniques act independently from each other (**Kohn**, col 10, lines 54 – 57).

Claim 13

Kohn anticipates knowledge builder is scalable by adding additional the Machine Learning techniques (**Kohn**, col 2, lines 16 – 22).

Claim 14

Kohn anticipates explanation-based learning, memory based learning, situation-

dependent learning (**Kohn**, col 1, lines 9 – 16).

Claim 15

Kohn anticipates the Knowledge Builder is to receive feedback from a user

(**Kohn**, col 18, lines 44 – 45; col 1, lines 9 – 16).

Claim 16

Kohn anticipates the knowledge builder is scalable to incorporate new knowledge

(**Kohn**, col 19, lines 7 – 13; col 2, lines 16 – 22).

Claim 17

Kohn anticipates the knowledge builder is scalable to incorporate new knowledge

extraction techniques (**Kohn**, col 19, lines 7 – 13; col 2, lines 16 – 22).

Claim 19

Kohn anticipates the Structured Knowledge Repository organizes knowledge and

provides links between specific pieces of information and the functional purposes to

which the knowledge can be put (**Kohn**, col 18, lines 54 – 59; col 20, lines 10 – 24).

Claim 20

Kohn anticipates the Decision Maker is to assemble the knowledge into an

answer to a query (**Kohn**, col 18, lines 65 – 67; col 19, lines 1 – 6).

Claim 21

Kohn anticipates the answer to the query is in the form of a recipe modification

that meets desired goals and constraints (**Kohn**, col 18, lines 65 – 67; col 19, lines 1 –

6).

Claim 22

Kohn anticipates the Decision Maker is to display knowledge to a user (**Kohn**, col

1, lines 11 – 15).

Claim 23

Kohn anticipates receiving one or more desired purposes for the production

process; receiving a recipe (**Kohn**, col 4, lines 57 – 62; col 6, lines 14 – 17; col 18, lines

44 – 45); and generating an advanced recipe comprising a set of actions and the

purpose of the underlying process (**Kohn**, col 1, lines 8 – 16; col 21, lines 40 – 43; col 4,

lines 34 – 37).

Claim 24

Kohn anticipates the method further comprises modifying the advanced recipe in

response to a user (**Kohn**, col 18, lines 44 – 45; col 21, lines 32 – 43).

Claim Rejections - 35 USC § 103

10.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kohn et

al in view of Acknowledged Prior Art (U. S. Patent 5,963,447, referred to as **Kohn**;

Specification, referred to as Acknowledged Prior Art, **APA**).

Claim 18

Kohn does not teach structured knowledge repository uses abstraction-

decomposition space (ADS) techniques. However, APA does teach structured

knowledge repository uses abstraction-decomposition space (ADS) techniques (**APA**,

page 12, lines 6 – 30; page 13, lines 1 – 6). It would have been obvious of one of

ordinary skill in the art at the time of the invention to use the teachings of APA to satisfy

analysis requirements as set forth in a learning environment to achieve goal setting

functionality.

Conclusion

11.   Claims 25-28 and 33-36 are allowed.   Claims 1-7, 9-18, 20-24 and 29-32 are

rejected.

Correspondence Information

12.   Any inquiry concerning this information or related to the subject disclosure

should be directed to the Examiner, Joseph P. Hirl, whose telephone number is

(703) 305-1668. The Examiner can be reached on Monday – Thursday from

6:00 a.m. to 4:30 p.m.

If attempts to reach the Examiner by telephone are unsuccessful, the

Examiner's supervisor, Anil Khatri can be reached at (703) 305-0282.

Any response to this office action should be mailed to:

Commissioner of Patents and Trademarks,
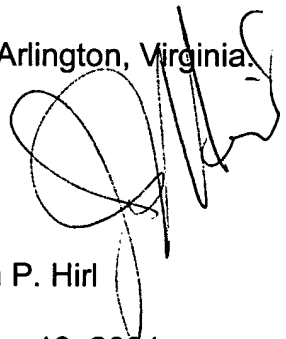
Washington, D. C. 20231;

or faxed to:

(703) 746-7239 (for formal communications intended for entry);

or faxed to:

(703) 746-7290 (for informal or draft communications with notation of

"Proposed" or "Draft" for the desk of the Examiner).

Hand-delivered responses should be brought to:

Receptionist, Crystal Park II

2121 Crystal Drive,

Arlington, Virginia.

Joseph P. Hirl

February 19, 2004